



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,970	04/27/2005	Kunio Nishimura	1152-0318PUS1	9110

2292 7590 04/01/2008  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

MCCRACKEN, DANIEL

ART UNIT	PAPER NUMBER
----------	--------------

1793

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

04/01/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/532,970	<b>Applicant(s)</b> NISHIMURA, KUNIO	
	<b>Examiner</b> Daniel C. McCracken	<b>Art Unit</b> 1793	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-41 is/are pending in the application.
- 4a) Of the above claim(s) 22-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/27/2005, 7/27/2005</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Citation to the Specification will be in the following format (S. # : ¶) where # denotes the page number and ¶ denotes the paragraph number. Citation to patent literature will be in the form (Inventor # : LL) where # is the column number and LL is the line number. Citation to the pre-grant publication literature will be in the following format (Inventor # : ¶) where # denotes the page number and ¶ denotes the paragraph number.

### ***Election/Restrictions***

Claims 22-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/13/2008.

### ***Specification***

A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the number of amendments to the specification needed to correct all of the deficiencies would make it difficult to consider the application.

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

The Specification suffers from poor diction, syntax, and grammatical form, possibly from a machine translation from Japanese. For example, Applicants state:

Then, the actualization of a process which can industrially be operated requires increase in the bulk density and reduction in a size of the facilities, and therefore employed is a process in which the above fibers or nanotubes are filled into a vessel or are compaction-molded and then subjected to heat treatment.

(S. 3: 12-18). (noting the use of the passive voice). If this sentence reads well in Japanese, it does not read well in English. This “style” is found throughout the Specification. This “style” makes it difficult to properly construe claims and focus a search. A thorough and thoughtful review of the specification is required to correct any and all deficiencies. No patent will ever be allowed unless these deficiencies are fixed.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

### ***Information Disclosure Statement***

The Examiner has considered the relevance of all foreign patent documents insofar as the translated abstract indicates. “The duty of candor does not require that the applicant translate every foreign reference, but only that the applicant refrain from submitting partial translations and concise explanations that it knows will misdirect the examiner’s attention from the reference’s relevant teaching.” *Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.*, 204 F.3d 1368, 1378, 54 USPQ2d 1001 1008 (Fed. Cir. 2000).

Applicants have cited numerous Japanese patent documents in their specification. To the extent any of these were not provided on any IDS submitted to the Office, this is not a proper IDS, and said documents were not considered. If Applicants consider them material to patentability, they should be submitted. Appropriate translations are expected.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claim 19, Applicants are either treating fibers or powder, not both. In general, ‘powder’ implies a size on the order of microns. Stated differently, a “fine carbon fiber” cannot be “in the form of a powder.” If Applicants are treating powder, further restriction may be appropriate. Furthermore, if they are already carbon fibers, it is not clear how they are ‘carbonized’.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The entire reference teaches each and every limitation of the rejected claims. The pinpoint citations provided are in no way to be construed as limitations of the teachings of the reference, but rather illustrative of particular instances where the teachings may be found.

Claims 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,409,775 to Harada, et al.

With respect to Claim 19, Harada teaches treating carbon fibers at the claimed temperature ranges to produce graphitized carbon fibers. (Harada 1: 27-45). An inert environment is taught. (Harada 5: 17-21). Note that the instant a carbon fiber is grown and it is still “in the oven” it is being subjected to heat treatment. With respect to claim 20, the same temperatures are taught. Noted that Harada teaches multiple milling techniques (Harada 5:61 – 6: 3) and molding (Harada 7: 55 *et seq.*). Further, the reported size and aspect ratios encompass powders. As to Claim 21, fibers are taught and crushing is taught. This is the evidence offered to prove inherency. “[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency’ under 35 U.S.C. 102, on prima facie obviousness’ under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted].” The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1793

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

As to the third *Graham v. Deere* inquiry, resolving the level of ordinary skill in the art, the Examiner resolves the level of skill in the art to be high, presumably a PhD level chemist or chemical engineer with extensive experience in the carbon fiber art. Support for this finding can be found in any of the references of record. To the extent this finding is necessary to support a rejection *infra* it is expressly incorporated therein by reference.

The references teach each and every limitation of the rejected claims. The pinpoint citations provided are in no way to be construed as limitations of the teachings of the reference,

Art Unit: 1793

but rather illustrative of particular instances where the teachings may be found. As to the rejection under 35 U.S.C. §§ 102/103, where the applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the Examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. *See* MPEP 2112 III. (discussing 102/103 rejections).

Claims 19-21 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,409,775 to Harada, et al.

The preceding discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. See above with respect to 102/103 references.

Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,409,775 to Harada, et al. in view of US 3,356,525 to Gutzeit, et al.

The preceding discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. To the extent Harada *may not* teach the use of heat to remove volatiles, and to the extent this is not obvious on its face, this is hardly inventive. Gutzeit (40 years ago) teaches “carbon fibers are used which have previously been subjected to *controlled sequential firing operations to remove volatiles*.” (Gutzeit 2: 35-37) (emphasis added). To the extent one of ordinary skill in the art would need motivation, the motivation is there on its face: you arrive at a more pure, cleaner product. *See also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 80 USPQ2d 1641, 1651 (Fed. Cir. 2006) (“Indeed, we have

Art Unit: 1793

repeatedly held that an implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the “improvement” is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal—and even common-sensical—we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him *capable* of combining the prior art references.”) (emphasis added). The Examiner submits here that heating is well within the grasp of the ordinary artisan, as reflected in the references. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR International Co. v. Teleflex, Inc.*, 550 US \_\_\_, 82 USPQ2d 1385, 1397 (2007). This is how you get rid of undesirable components – you burn them off! It is analogous to regenerating a catalyst that has been fouled, etc. Optimizing the temperatures is not inventive. *In re Boesch*, 205 USPQ 215, 219 (CCPA 1980).

### ***Conclusion***

Carbon fibers, (making them, treating them, etc.) are old and known. All amendments made in response to this Office Action must be accompanied by a pinpoint citation to the Specification (i.e. page and paragraph or line number) to indicate where Applicants are drawing their support. The prior art made of record in Applicants IDS and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 1793

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel C. McCracken whose telephone number is (571) 272-6537. The examiner can normally be reached on Monday through Friday, 9 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel C. McCracken/

/Stuart Hendrickson/

Daniel C. McCracken  
Examiner, Art Unit 1793  
DCM

Stuart L. Hendrickson  
Primary Examiner